THREATENED SPECIES

Mexican Spotted Owl (*Strix occidentalis lucida*)

The Mexican spotted owl is listed as Threatened (USFWS 1993) under the Endangered Species Act and is managed under the Mexican Spotted Owl Recovery Plan (USFWS 1995a). Critical habitat has been designated; with a small area (less than 100 acres on the forest) occurring on the Fishlake National Forest.

Spotted owls in Utah are generally found in the pinyon-juniper zone, below the mixed conifer forests typical of owl habitat in Arizona and New Mexico. These birds select steep, narrow, cool canyons for roosting and nesting. These sites are characterized by small clumps of fir (*Abies* spp.) and deciduous trees growing within cool canyons or on steep north-facing slopes. During the winter, the owls tend to move out of the canyons and onto mesa-tops, benches and warmer slopes (Willey 1992).

Structural characteristics associated with forested Mexican spotted owl habitat vary depending on the behavioral function it supports. Spotted owls apparently use a wider array of habitat types for foraging than for nesting and roosting, including fairly open and non-contiguous forest, small openings, and pure ponderosa pine stands. Little is known about the habitat requirements for dispersal. No nesting Mexican spotted owls have been located on the Fishlake National Forest.

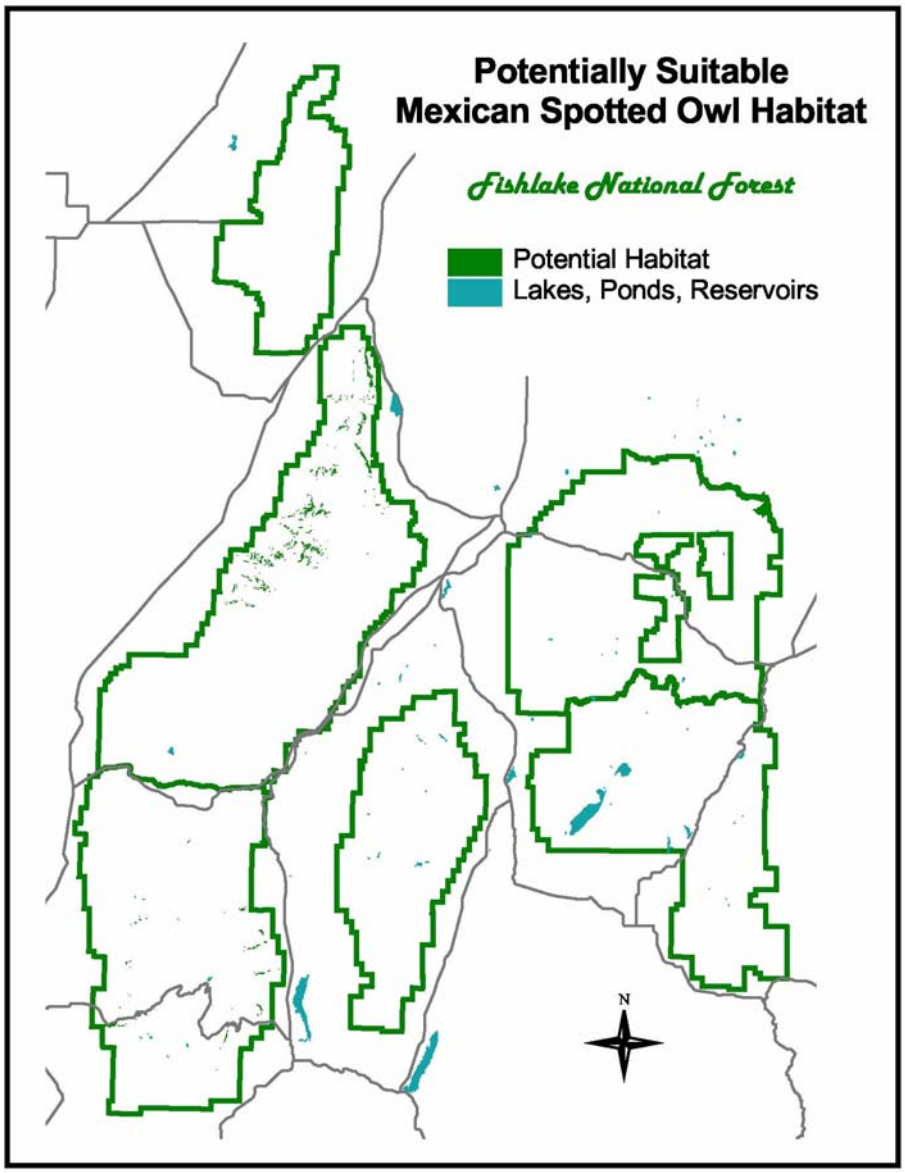
Mexican spotted owls are mostly solitary outside of the breeding season. They have a low reproductive success of 0.5 young/pair. Age at first breeding is usually two years. Mexican spotted owls show high nest site fidelity.

Reproductive season begins in early March when pair formation occurs. Two to four eggs are laid in mid-April, incubated 30 days and hatch mid-May. Owlets are fledged early- to mid-June (Spahr et al. 1991).

The earliest recorded spotted owls in Utah were in Zion National Park in June 1928 (Hayward et al. 1976). The most northerly occurrence was in 1958 in the Book Cliffs of northeast Utah. The largest population of Mexican spotted owls in Utah occurs in Zion National Park where surveys indicate 17 confirmed sites in and around Zion National Park (Rinkevich 1991). Mexican spotted owls are generally absent from high elevations with the only sightings in high elevations having been in June 1958 in an aspen grove (Behle 1960) and in 1990, a response at 10,000 feet on the Manti-LaSal National Forest (Willey 1990). Current Mexican spotted owl records in Utah indicate there are approximately 131 locations (Howe Unpublished data).

No nesting spotted owls have been confirmed on the Fishlake National Forest. All survey efforts have been following the USFS Region 3 (Southwestern Region, Arizona and New Mexico) protocol, Interim Directive Number 2 (USDA Forest Service Southwest Region 1990).

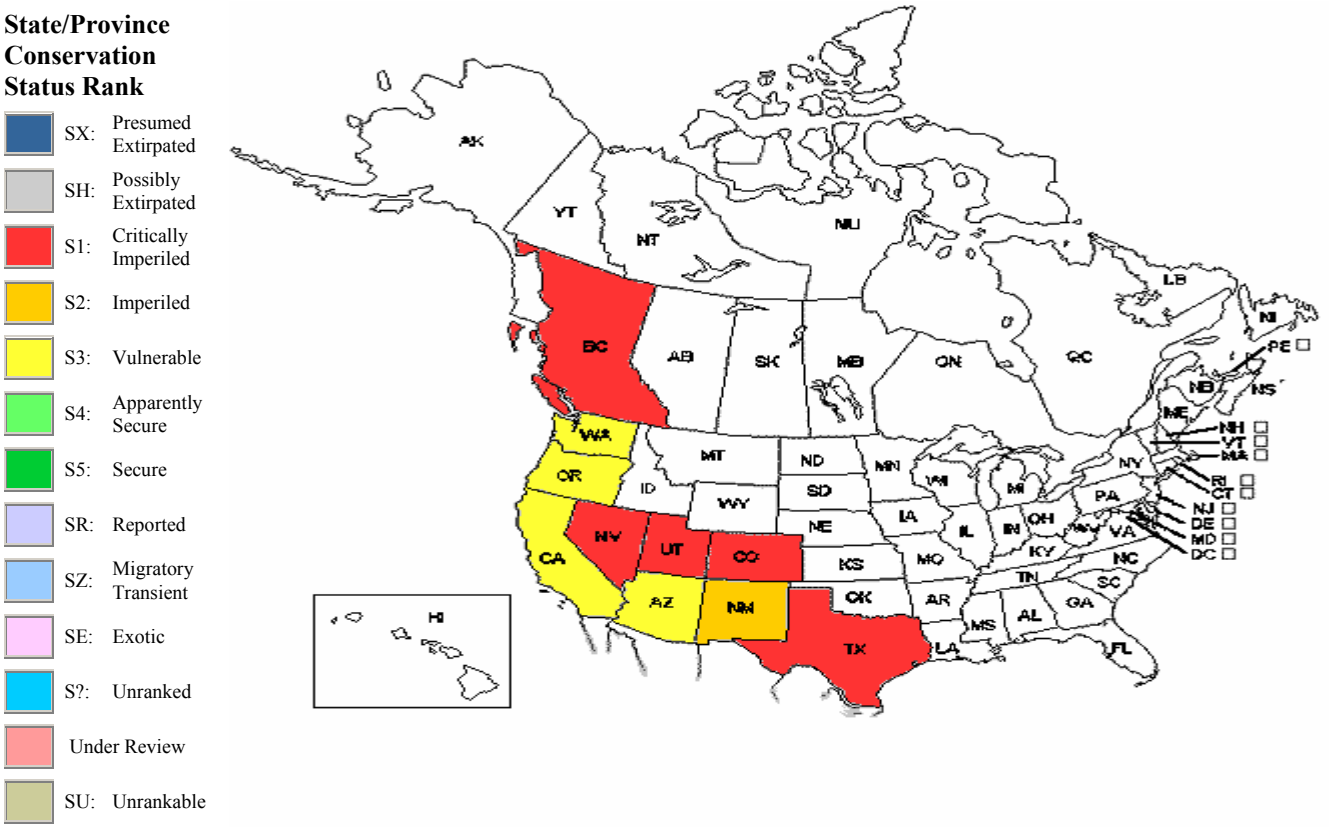
The map below displays the potentially suitable nesting habitat on the Fishlake National Forest. There are approximately 2,208 acres of potential nesting habitat across the forest.



Based on the lack of nesting Mexican spotted owls on the Fishlake National Forest and the limited potentially suitable nesting habitat, the status of this species on the forest is unknown. However, based on the data the forest has collected since 1991, this species is not known to nest on the forest and appears to be occurring in low elevation steep walled canyon habitats.

Displayed below is a map that was selected from the NatureServe web site, which summarizes data from The Nature Conservancy, and the Natural Heritage Program database. This map displays Mexican spotted owl throughout their range

Spotted Owl (*Strix occidentalis)*



NatureServe Explorer; an online encyclopedia of life. [web application].2001.version1.6 Arlington, Virginia, USA

Based on the data presented above by the Nature Conservancy this species has been identified as being critically imperiled.

Bald Eagle (*Haliaeetus leucocephalus*)

The bald eagle was listed as a threatened species in 1978 and is managed under the Northern States Bald Eagle Recovery Plan (USFWS 1983). No critical habitat has been designated for the bald eagle on the Fishlake National Forest. Bald eagles range across North America breeding from south of the Arctic tundra to the southern United States and Baja, California. They generally move south to open water during winter. Bald eagles can be found in every state for all or part of the year (Spahr et al. 1991).

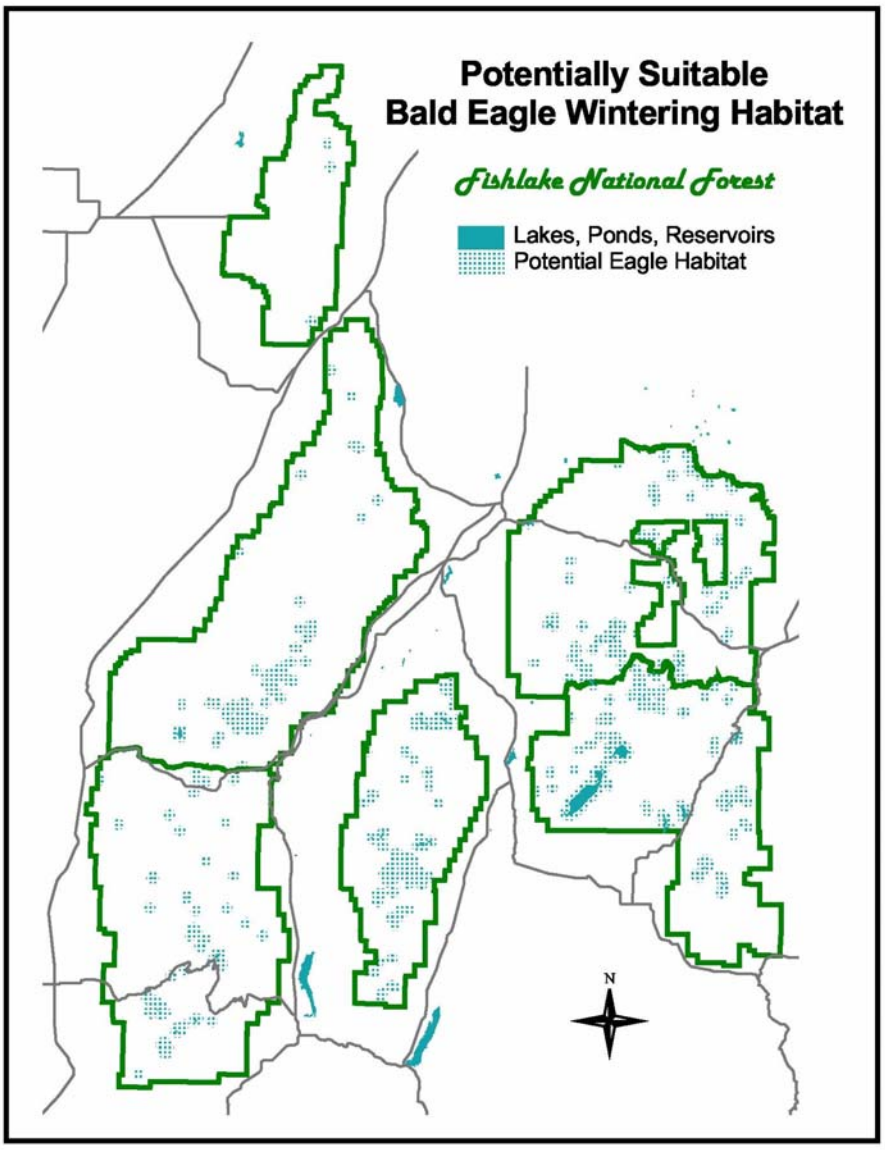
The breeding range of the bald eagle has receded during the 19th and 20th centuries. Historic records indicate that bald eagles formerly nested in at least 45 of the contiguous 48 states. As of 1981, only 30 states had nesting birds with 90 percent of the 1,250 known pairs occurring in just 10 states. Parts of Alaska and Canada have 10 times that number of nesting bald eagles (USFWS 1983). Four nesting bald eagles have been located in Utah, with three found in the southeastern part of the state. Results of the National Wildlife Federation mid-winter bald eagle survey indicate that at least 627-743 bald eagles winter within Utah (USFWS 1983).

The Northern States Bald Eagle Recovery Plan (USFWS 1983) states that the primary characteristic of winter habitat is abundant and available food supply in conjunction with one or more suitable night roost sites. At winter areas, bald eagles commonly roost in large groups. In the Pacific Northwest, these communal roosts are usually located in mature multi-layered forest stands with mean tree diameters ranging from 20-24 inches and heights between 81 and 91 feet. Predominant cover type is usually Ponderosa pine, mixed conifer, or black cottonwood (Anthony et al. 1981). According to the recovery plan, locations that are protected from wind by vegetation or terrain provide a more favorable thermal environment. In addition to the natural features, roost sites generally are isolated from humans. It is estimated that 50 percent of the bald eagles in the northern states region occur in congregations; others are present in hundreds of locations that are used regularly by one to 20 birds (USFWS 1983). Collectively, these small groups are probably as important as the large concentration areas.

In the bald eagle, sexual maturity is reached at four to six years of age, but the birds may be considerably older before they breed (USFWS 1983). Bald eagles establish pair bonds in winter and initiate nesting February-March. One to three eggs are laid in March or April, incubated 35 days and young are fledged at 8-14 weeks. Bald eagles are long-lived (30 years) with a low reproduction rate. Mortality is high in the immature age classes but much lower after two years of age (Sherrod et al. 1977).

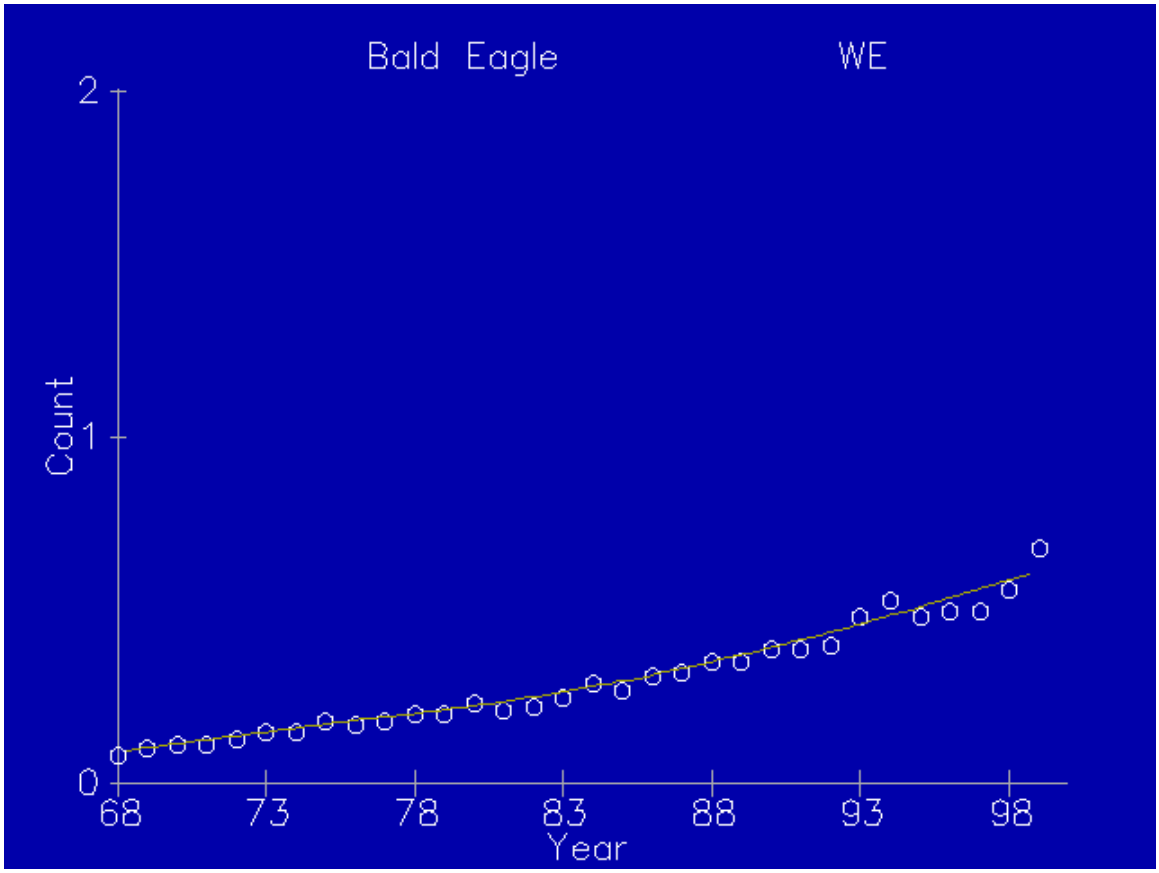
Bald eagles occur on Fishlake National Forest during the fall, winter, and spring months. Essential habitat, defined by the Northern States Bald Eagle Recovery Plan, includes those locations which 1) are used annually for two weeks or longer by birds known to be from a nearby breeding area, 2) are used annually by 15 or more eagles for two weeks or longer, and 3) are used during periods of extremely harsh weather, when suitable feeding areas and night roost sites are limited. No bald eagle winter concentration areas have been identified on the Fishlake National Forest by UDWR, or the Forest Service. Single birds and or pairs of Bald eagles have been documented overwintering on the Fillmore, Loa, Richfield, and Beaver Ranger Districts.

Displayed below is a map of potentially suitable habitat across the Forest. There are approximately 160,000 acres of potentially suitable habitat on the Forest. Suitable habitat consisted of lakes, ponds, and reservoirs, which may be used across the forest as wintering habitat.



The main threats to the bald eagle population are: 1) loss of suitable habitat, 2) mortality from shooting, trauma, poisoning, disease, electrocution, and other causes, and 3) reduced reproduction caused by environmental contaminants (USFWS 1983).

The data displayed below have been obtained from the BBS database (www.mbr-pwrc.usgs.gov), which represents data collected from the Western United States from 1968 through 1998. These data demonstrate that bald eagle numbers are on a steady upward trend throughout the Western United States, including the Fishlake National Forest in Utah.



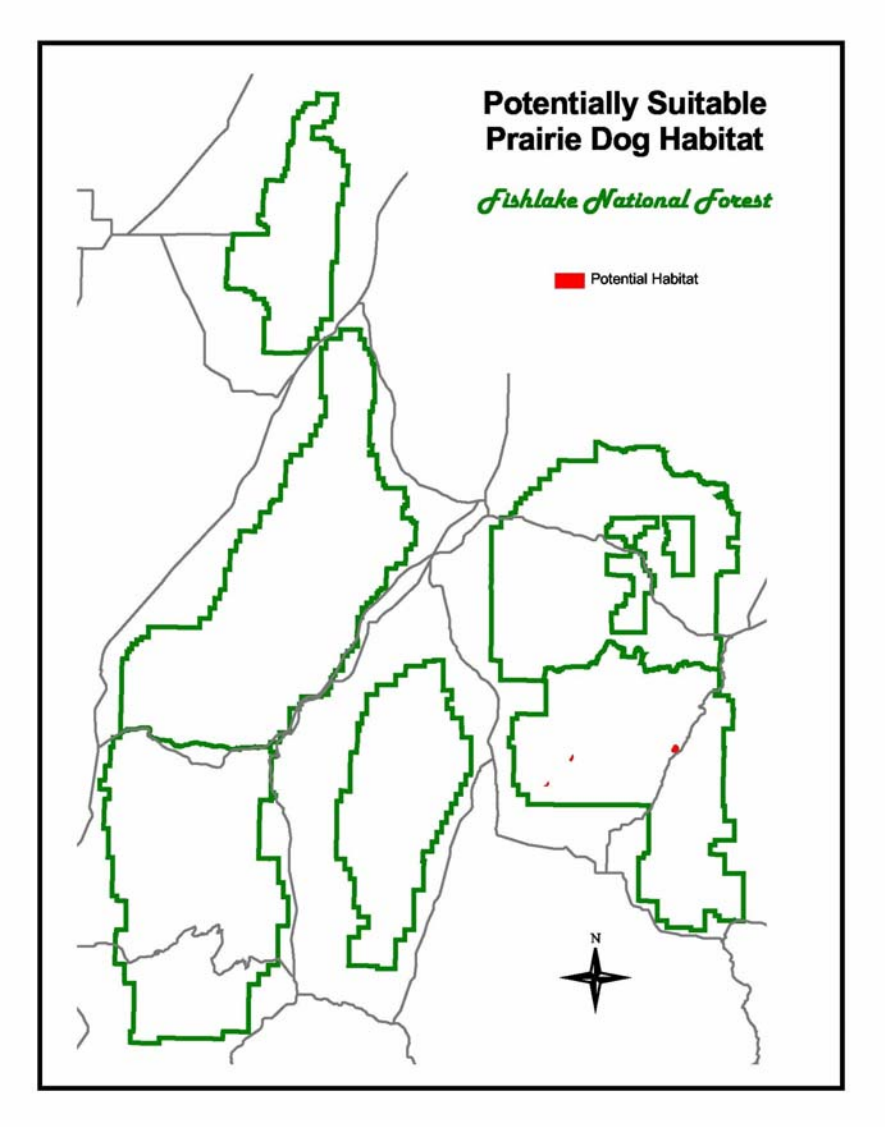
Utah Prairie Dog (*Cynomys parvidens*)

The Utah prairie dog was listed as an endangered species in June of 1973 (USFWS 1991). Because of the improved status of the species and the overwhelming increases seen on private lands since 1976, the U. S. Fish and Wildlife Service reclassified the species to Threatened in May of 1984. Since the reclassification in 1984 population numbers have fluctuated on private and public lands and the species still remains threatened. No critical habitat has been designated for the Utah prairie dog on the Fishlake National Forest.

The Utah prairie dog's range is limited to five counties in south-central Utah (Iron, Garfield, Piute, Wayne, Sevier). Historically, Utah prairie dogs inhabited nine Utah counties and populations are estimated at 95,000 prior to 1920. By the 1960's, the Utah prairie dog numbers and distribution were reduced due to disease, poisoning, drought, and habitat alteration due to cultivation and grazing. By 1972, there were an estimated 3,300 prairie dogs in 37 colonies (USFWS 1991).

The Utah prairie dog presently occurs in three areas, as described in the Utah Prairie Dog Recovery Plan (USFWS 1991): The Awapa Plateau, the Paunsaugunt region along the East Fork of the Sevier, and the West Desert region of east Iron County.

Displayed below is a map identifying approximately 423 acres of potentially suitable habitat across the forest.



In 1975, the UDWR initiated biannual census counts, and annual counts in 1978. An upward trend was indicated. The 2001 data show approximately 4,217 total animals counted in the Southern Region, which is estimated to represent a total population of 8,400 adult dogs. According to the 2000 annual report prairie dogs in the Awapa Plateau unit have declined. An increase from 201 in 1999 to 424 adults in 2000. This count represents the first increase since 1995 when 460 dogs were counted. Three hundred forty dogs were counted on Trust Lands and private lands in this recovery area. The remaining 81 dogs were found in 16 colonies within seven complexes on public lands. The counts on public lands are the lowest since 1993, when 44 dogs were counted. This decline is not all on lands administered by the Fishlake National Forest; the Bureau of Land Management administers some of these lands. Over the past 28 years from 1972 to 2000, over 18,638 animals were live- trapped and transplanted. Overall success of this program has been poor. A Conservation Assessment, Strategy, and Agreement have been developed to aid in the management of this species. Implementation of this strategy has been ongoing since 1997 when it was signed.

The Fishlake National Forest has 4 transplant populations located on the Forest, 3 in the Fishlake Basin of the Loa Ranger District and one in the Rocky Pond area of the Beaver Ranger District. To date, these transplants have been considered unsuccessful with low reproductive rates as well no dogs currently occupying the site. These sites are being evaluated by the UDWR, and will be addressed in a future Habitat Conservation Plan (HCP) that will be developed in Wayne County, Utah. In addition to these sites, several "towns" are located adjacent to the forest boundary in the Koosharem area near Monroe Mountain, and on private lands in the Gooseberry Valley.

Like other species of prairie dogs, the Utah prairie dog lives in organized colonies, called "towns" (Spahr et al. 1991). Towns are distinguished by several mounds, which mark the openings to burrows. Burrows are about six inches in diameter and go straight down for about ten to fifteen feet, and then branch into two to three horizontal tunnels (Spahr et al. 1991). The size and complexity of the burrow systems may vary greatly (Foster and Hygnstrom 1991). Smaller chambers are sometimes dug just below the surface where they sit and listen for aboveground activity. The deeper chambers are used for nesting, sleeping and caring for their young (Foster and Hygnstrom 1991).

Each family or "coterie" of prairie dogs occupies a territory of about one acre. A coterie usually consists of a single adult male, one to four adult females, and any of their offspring less than two years old (Foster and Hygnstrom 1991, McDonald 1992). Members of a coterie are very sociable and maintain unity through physical contact (Foster and Hygnstrom 1991). Communication between coteries is an important social behavior in prairie dog towns; the primary purpose being to alarm others of danger and calling to one another when the danger has passed (Foster and Hygnstrom 1991).

Prairie dogs are sexually mature after their second winter and breed once a year in March or April (Foster and Hygnstrom 1991, Spahr et al. 1991). Three to five young are born in late April or early May after a gestation of about 30 days. Prairie dog adults emerge and begin foraging from mid-March to early April and enter dormancy from mid-July to mid-August (Spahr et al. 1991). Juveniles emerge to forage when they are about six weeks old and become dormant from early October to mid-November. These dates may vary according to elevation with lower elevation colonies (under 7000 feet) generally two weeks earlier than the higher elevation colonies (Spahr et al. 1991).

Basic habitat requirements considered for the Utah prairie dog are deep, well-drained soil, vegetation low enough so that prairie dogs can see over or through, and suitable forage (Spahr et al. 1991). Moist forage available throughout the summer is also needed.

The Utah prairie dog is classified as an herbivore; however, insects (particularly cicadas) are its preferred food (Spahr et al. 1991). The preferred vegetative food is alfalfa. Except for a few forbs in certain growth stages (leafy aster, European glorybind, and some wild buckwheat's in seed) the Utah prairie dog prefers grasses to forbs and shrubs. They usually select a plant's flowers or seeds over its leaves and their use of leaves is generally negligible (Spahr et al. 1991). Prairie dogs are most active during the day, feeding mostly in the early morning and late afternoon in the summer (Foster and Hygnstrom 1991).

Predation is a major cause of mortality. Badgers are a serious threat to prairie dogs because they can dig deep into the burrows. Other predators include weasels, coyotes, bobcats, foxes, eagles, hawks and snakes (Foster and Hygnstrom 1991).

Prairie dogs are vulnerable to mortality from several diseases, the most notable being the plague; a severe infectious disease caused by the bacterium *Yersinia pestis* (Foster and Hygnstrom 1991, McDonald 1992). The plague usually occurs when populations increase to high densities causing

increased stress among individuals and easier transmission of disease between individuals (McDonald 1992).

Drought is thought to be one of the most important factors influencing the distribution of the Utah prairie dog (McDonald 1992). Colonies lacking moist vegetation are decimated by drought because prairie dogs are unable to obtain sufficient water and nutrients (McDonald 1992).

Maguire's daisy *(Erigeron maguirei)*

Maguire's daisy, a member of the sunflower family (Asteraceae), is an herbaceous perennial, which results from a branched caudex. Caudex branches have brown to straw colored marcescent leaf bases while herbage is spreading hirsute. The stems are 7-28 cm long. The basal leaves are 2-5 cm long, 3-8mm wide, and oblanceolate to spatulate in shape with a round apex. Cauline leaves well developed, but somewhat reduced upward. Flowers solitary or in clusters of 2-5, bracts imbricate and green or yellowish. The inner bracts are often less pubescent, with scarious purple tips. The ray flowers are white or pinkish and 12-20 in number.

Maguire's daisy can be distinguished from the typical variety by its more numerous heads per stem, its narrower ray corollas, and shorter disk corollas. Another distinguishing characteristic is the presence of highly pubescent herbage.

This species is found in mountain mahogany and oak communities in cliff faces or sandy canyon bottoms on Navajo and Wingate sandstone. This endemic species of Wayne and Emery Counties, Utah has been reported primarily on Bureau of Land Management (BLM) and Capitol Reef National Park lands. The range of elevation is between 5,000 and 7,000. Common associated species are *Cercocarpus intricatus* (Little-leaf mountain mahogany), *Pinus edulis* (Pinyon pine), and *Juniperus osteosperma* (Utah Juniper).

Plants are protected from threats such as livestock grazing by their occurrence on cliff faces. However, erosion and recreational traffic are two potential threats to certain populations.

The 1999 field season placed two populations on the Fishlake National Forest, Loa Ranger District (Clark 2002).

Last Chance townsendia *(Townsendia aprica)*

This member of the sunflower family (Asteraceae) is a pulvinate caespitose perennial that is approximately 1.5-2.5 cm tall. *T. aprica* has involucre bracts that are 4-8mm long and 7-13 mm wide. The stems have persistent leaf bases and ray flowers that are golden yellow in color. This species is easily distinguished by a pulvinate caespitose acaulescent growth form, yellow rays, and a short pappus of ray flowers (Atwood et al. 1991).

This species is endemic to central Utah in Emery, Wayne, and Sevier counties. It prefers salt desert shrub and pinyon-juniper communities on clay or clay-silt soils of the Arapien and Mancos Shale formations between 6,100-8,000 feet in elevation. It blooms in April and May (Atwood et al. 1991). Reproduction is sexual, and *T. aprica* is bee and/or fly pollinated. Common associate plants include Hilaria jamesii (galleta grass), *Juniperus osteosperma* (Utah Juniper), *Bouteloua gracilis* (blue gramma grass), and *Atriplex confertifolia* (shadscale)(Clark 2002).

Threats to Last Chance Townsendia include mineral and energy development, road development, road building, and livestock trampling (U.S. Fish and Wildlife Service 1993).

Last Chance Townsendia is found in 12 separate populations on the Loa and Richfield Ranger Districts of the Fishlake National Forest (Clark 2002).